

Claims

1. A method for providing close range truck detection for a motor vehicle, comprising the steps of:

determining an initial range from a motor vehicle to a target;

determining whether a range rate of the target is above a predetermined rate;

determining whether the initial range to the target is less than a current range to the target when the range rate to the target is not above the predetermined rate; and

providing an adjusted range when the initial range to the target is less than the current range to the target and the range rate is below the predetermined rate, wherein the adjusted range is utilized to control operation of the motor vehicle.

2. The method of claim 1, further comprising the step of:

adding a predetermined offset to the adjusted range when the range rate is above a predetermined target rate.

3. The method of claim 1, wherein the adjusted range is

provided by subtracting a predetermined offset from the current range, and wherein the predetermined offset is about 5 meters.

4. The method of claim 3, wherein the predetermined

offset is only subtracted from the current range when the current range is less than about 20 meters.

5. The method of claim 1, wherein the adjusted range is

provided when a sign of a calculated range rate that is based on a differentiated range does not match a sign of a sensor provided range rate, and wherein the predetermined rate is about 0.0 meters per second.

6. The method of claim 1, further comprising the step of:  
providing an alarm when the adjusted range is less than a  
desired minimum distance.

7. The method of claim 1, wherein the operation of the  
motor vehicle is controlled by initiating deceleration by a throttle subsystem of  
the motor vehicle.

8. The method of claim 7, wherein the operation of the  
motor vehicle is also controlled by initiating braking by a brake subsystem of  
the motor vehicle.

9. An automotive system for providing close range truck  
detection for a motor vehicle, comprising:

a processor;

a range sensor coupled to the processor; and

a memory subsystem coupled to the processor, the memory  
subsystem storing code that when executed by the processor instructs the  
processor to perform the steps of:

determining an initial range from a motor vehicle to a  
target;

determining whether a range rate of the target is above a  
predetermined rate;

determining whether the initial range to the target is less  
than a current range to the target when the range rate to the target is not above  
the predetermined rate; and

providing an adjusted range when the initial range to the  
target is less than the current range to the target and the range rate is below  
the predetermined rate, wherein the adjusted range is utilized to control  
operation of the motor vehicle.

10. The system of claim 9, wherein the code when executed by the processor instructs the processor to perform the additional step of:

adding a predetermined offset to the adjusted range when the range rate is increasing above a predetermined target rate.

11. The system of claim 9, wherein the adjusted range is provided by subtracting a predetermined offset from the current range, and wherein the predetermined offset is about 5 meters.

12. The system of claim 11, wherein the predetermined offset is only subtracted from the current range when the current range is less than about 20 meters.

13. The system of claim 9, wherein the predetermined rate is about 0.5 meters per second.

14. The system of claim 9, further comprising:  
an alarm coupled to the processor, wherein the code when executed by the processor instructs the processor to perform the additional step of:

activating the alarm when the adjusted range is less than a desired minimum distance.

15. The system of claim 9, further comprising:  
a throttle subsystem coupled to the processor, wherein the operation of the motor vehicle is controlled by initiating deceleration by the throttle subsystem.

16. The system of claim 15, further comprising:

a brake subsystem coupled to the processor, wherein the operation of the motor vehicle is also controlled by initiating braking by the brake subsystem.

17. An automotive system for providing close range truck detection for a motor vehicle, comprising:

a processor;

a range sensor coupled to the processor;

a memory subsystem coupled to the processor, the memory subsystem storing code that when executed by the processor instructs the processor to perform the steps of:

determining an initial range from a motor vehicle to an object;

determining whether the object is a valid target;

determining whether a range rate of the valid target is above a predetermined rate;

determining whether the initial range to the valid target is less than a current range to the valid target when the range rate to the valid target is not above the predetermined rate; and

subtracting a predetermined offset from the current range to provide an adjusted range when the initial range to the valid target is less than the current range to the valid target and the range rate is below the predetermined rate, wherein the adjusted range is utilized to control operation of the motor vehicle; and

a throttle subsystem coupled to the processor, wherein the operation of the motor vehicle is controlled by initiating deceleration by the throttle subsystem.

18. The system of claim 17, wherein the code when executed by the processor instructs the processor to perform the additional step of:

adding the predetermined offset to the adjusted range when the range rate is increasing above a predetermined target rate.

19. The system of claim 17, wherein the predetermined offset is about 5 meters and the predetermined rate is about 0.5 meters per second, and wherein the step of subtracting the predetermined offset from the current range to provide the adjusted range when the initial range to the valid target is less than the current range to the valid target and the range rate is below the predetermined rate is only performed when the current range is less than about 20 meters.

20. The system of claim 17, further comprising:  
an alarm coupled to the processor, wherein the code when executed by the processor instructs the processor to perform the additional step of:  
activating the alarm when the adjusted range is less than a desired minimum distance.

21. The system of claim 20, further comprising:  
a brake subsystem coupled to the processor, wherein the code when executed by the processor instructs the processor to perform the additional step of:  
initiating braking by the brake subsystem when the adjusted range is less than the desired minimum distance.